

Amendment under 37 CFR §1.116
Attorney Docket No.: 032017
Application No.: 10/686,481

REMARKS

Claims 1 and 3-21 are pending in the present application. Claim 1 is herein amended.
No new matter has been entered.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 3, 6-9 and 17-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Taguchi (US 5,332,365, hereinafter referred to as "**Taguchi '365**") in view of **Hirota** (US 6,394,761); claims 4 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Taguchi '365** in view of **Hirota**, and further in view of **Burkett** (US 6,688,853); claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Taguchi '365** in view of **Hirota**; claims 15 and 16 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Taguchi '365** in view of **Hirota**; and claims 1, 10-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Taguchi (US 5,165,863, hereinafter referred to as "**Taguchi '863**") in view of **Hirota**.

Favorable reconsideration is requested.

Claim 1 has been amended to recite that the first and second plungers become attached to one another via a diaphragm due to a magnetic force as suggested at page 17 of the Office Action.

(1) Applicants respectfully submit that Taguchi '365 in view of Hirota and Taguchi '863 in view of Hirota do not teach or suggest:

wherein, when the solenoid is energized, the first and second plungers attract each other with magnetic force to become attached to one another via the pressure-sensing member to become an integral member which is attracted by a core

as recited in amended claim 1.

The Office Action acknowledges that neither Taguchi '365 nor Taguchi '863 disclose the feature that when the solenoid is energized, the first and second plungers attract each other with magnetic force via the pressure-sensing member to become an integral member which is attracted by a core. (Office Action, pages 8 and 10.) The Office Action cites Hirota for disclosing this feature. The Office Action takes the position that valve element 25 of Hirota corresponds with the "second plunger" as recited in claim 1 and cites Hirota at Col. 3, lines 10-15. (Office Action, pages 8 and 10.)

However, in Hirota valve element 25 is not magnetically attracted to moveable iron core 23 to form an integral member when the solenoid is energized; and Hirota at col. 3, lines 10-15, merely states that pressure P_s acts on valve element 25 in the same direction as compression coil spring 28 which is opposite to the force generated by compression coil 27 minus the attraction force of moveable iron core 23 to fixed iron core 22. (Col. 3, lines 10-15.) This passage neither states nor implies that moveable iron core 23 is magnetically attracted to valve element 25 to form an integral member which is attracted by the core. Valve element 25 does not receive magnetic action under any condition because valve element 25 is arranged outside the closed loop of the line of magnetic force generated by magnetic coil 21.

The Office Action interpreted claim 1 as not requiring direct magnetic interaction between a first and second plunger, and takes the position that Hirota teaches first and second plungers that operate as an integral member due in part to a magnetic force created from energizing the solenoid. (Office Action, pages 16-17.) However, as stated above, claim 1 has

been amended to recite that the first and second plungers become attached to one another via a diaphragm due to a magnetic force.

(2) Applicants respectfully submit that Taguchi '863 in view of Hirota does not teach or suggest "wherein shock-absorbing means is disposed between the pressure-sensing member and the first plunger" as recited in claim 10.

The Office Action takes the position that the limitation "shock-absorbing means" can be interpreted very broadly as "any element that could come between two separate elements as they come towards one another." (Office Action, page 17.) The Office Action further takes the position that circular plate 482 of Taguchi '863 is a separate element that separates the diaphragm 418 from the section of valve member 480 that defines an axial hole 481.

Applicants respectfully submit that circular plate 482 of Taguchi '863 cannot be considered a shock-absorbing means. This is because the circular plate 482 is integrally combined with the valve member 480 which is urged toward the diaphragm 418 by the third coil spring 491. And, the circular plate 482 is constantly pressed against the diaphragm 418. Therefore, the circular plate 482 does not collide with nor separate from the diaphragm 418. The circular plate 482 is a lid to contain the ball member 485a and the second coil spring 485b in the hollow valve member 480, and is designed to transmit a very slow variation of the diaphragm 418 to the valve member 480. Thus, it is understood that the circular plate 482 does not have any function of a shock-absorbing means.

For at least the foregoing reasons, claims 1 and 3-20 are patentable over the cited references. Accordingly, withdrawal of the rejections of claims 1 and 3-20 is hereby solicited.

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In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Andrew G. Melick
Attorney for Applicants
Registration No. 56,868
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

AGM/adp